Department of Commerce • National Oceanic & Atmospheric Administration • National Weather Service

NATIONAL WEATHER SERVICE INSTRUCTION 10-512
OCTOBER 1, 2002

Operations and Services
Public Weather Services, NWSPD 10-5

NATIONAL SEVERE WEATHER PRODUCTS SPECIFICATION

NOTICE: This publication is available at: http://www.nws.noaa.gov/directives/

OPR: OS22 (R. Okulski) **Certified by:** OS22 (J. Lee)
Type of Issuance: Initial.

SUMMARY OF REVISIONS: This directive supersedes WSOM Chapter C-40, Issuance 95-2 dated March 24, 1995; OML 01-95, dated April 26, 1995; OML 03-97, dated July 30, 1997; OML 01-98, dated March 17, 1998; OML 04-99, dated September 9, 1999; OML 03-00, dated June 26, 2000.

Signed 10/01/02

Gregory A. Mandt Date
Director, Office of Climate,
Water, and Weather Services

National Severe Weather Products Specification

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1. Introduction. This procedural instruction describes the narrative and graphical severe weather products issued by the Storm Prediction Center (SPC) for the continental United States (CONUS).

2. Categorical Convective Outlook (product category SWODY1, SWODY2 and SWODY3)

2.1 Mission Connection. SPC issues narrative and graphical Categorical Convective Outlooks to provide CONUS Weather Forecast Offices (WFOs), the public, media and emergency managers with the potential for severe and general convection during the next 72 hours.

2.2 Issuance Guidelines.

2.2.1 Creation Software. SPC will use the National Centers NAWIPS editor for text products, and the SPC graphics editor for graphical products.

2.2.2 Issuance Criteria. Categorical Outlooks are a scheduled product.

2.2.3 Issuance Time. Day One Outlook: 0600, 1300, 1630, 2000 and 0100 UTC
Day Two Outlook: 0830 (0730 during daylight savings time), 1730 UTC
Day Three Outlook: 0830 (0730 during daylight savings time), 1730 UTC

2.2.4 Valid Time. The valid time is from the time of issuance until the next update, except at 0600 UTC. The outlook issued at 0600 UTC is valid from 1200 UTC today to 1200 UTC tomorrow.

2.2.5 Product Expiration Time. Product expiration times are 1200 UTC tomorrow (Day One Outlook), 1200 UTC next day (Day Two Outlook), and 1200 UTC the following day (Day Three Outlook).

2.3 Technical Description. Categorical outlooks should follow the format and content described in this section.

2.3.1 Mass News Disseminator Broadcast Line. None.

2.3.2 Mass News Disseminator Header. The SWO MND header is “DAY (ONE, TWO OR THREE) CONVECTIVE OUTLOOK”.

2.3.3 Content. The Categorical Convective Outlook defines areas of slight, moderate or high risk of severe thunderstorms. The outlooks also define areas of general thunderstorms and thunderstorms approaching severe limits. SPC defines a significant convective event as a tornado that could produce F2 or greater damage, two inch or larger hail diameter, or a 65 knot or greater convective wind gust. Two letter postal state identifiers are used to specify all or parts

of states in moderate or high risk areas. SPC will issue a Public Severe Weather Outlook when a high risk is forecast.

Convective Outlook narratives will reference Public Severe Weather Outlooks. SPC should issue narrative and graphical forecasts at the same time. The contour for "General Thunder" in the graphical forecast corresponds to a 10 percent probability of severe convection. Day Three Outlooks do not forecast the 10 percent probability of severe convection. High areas of risk are not issued on Day Two and Three Outlooks due to forecast uncertainty. Listed below is the risk assignment table for Day One, Day Two and Day Three Outlooks:

Categorical Outlooks

Now Derived From the Probabilities

	5%	15%	25%	35%	45%
HAIL	SLGT	SLGT	MDT	MDT	MDT
WIND	SLGT	SLGT	MDT	MDT	HIGH
TORNADO	SLGT	MDT	HIGH	HIGH	HIGH

If the box is shaded, then the probabilities need a 10% significant area in order to qualify for that category. For example, a 25% probability for large hail would be a SLGT risk, but if there is an area of significant hail (greater than 2.00 inches in diameter) expected in association with that 25% probability, then the category is raised to MDT risk.

Table 1. Categorical Outlooks

Note: High Risk is not an option for Days Two and Three due to forecast uncertainty.

2.3.4 Format.

```
ACUS01 KWNS ddhhmm
SWODYX

STORM PREDICTION CENTER..NWS/NCEP...NORMAN OK
DAY (ONE OR TWO) CONVECTIVE OUTLOOK...REF AWIPS GRAPHIC PGWE(46 OR
47) KWNS
VALID DDHHMM - DDHHMMZ

THERE IS A (SLIGHT, MODERATE, HIGH) RISK OF SEVERE THUNDERSTORMS TO
THE RIGHT OF LINE (LIST OF ANCHOR POINTS AND DIRECTION AND DISTANCE
IN STATUTE MILES FROM THE LINE). THE LINE WILL ENCLOSE THE AREA OF
RISK. THERE MAY BE ONE OR MORE AREAS OF RISK AT THE APPROPRIATE
LEVEL OF RISK.

GEN TSTMS ARE FCST TO THE RIGHT OF A LINE FROM (LIST OF ANCHOR POINTS
AND DIRECTION AND DISTANCE IN STATUTE MILES FROM THE LINE). THERE
MAY BE ONE OR MORE AREAS OF GEN TSTMS LISTED.

...AREA OF CONCERN #1...
AREAS OF HIGHEST RISK ARE DISCUSSED FIRST (HIGH SEVERE RISK,
MODERATE SEVERE RISK, SLIGHT SEVERE RISK, APPROACHING SEVERE
LIMITS). THE FORECAST PROVIDES A NARRATIVE TECHNICAL DISCUSSION.

...AREA OF CONCERN #2...
NARRATIVE TECHNICAL DISCUSSION

...FORECASTER NAME... MM/DD/YY
$$
```

Figure 1. Categorical Outlook Format

2.4 Updates, Amendments and Corrections. Updates are scheduled (see issuance times). SPC will correct outlooks for format and grammatical errors as required.

3. **Probabilistic Convective Outlook (product category RGB0A1, RGB0A2, RGB0A3).**

3.1 Mission Connection. SPC issues probabilistic convective outlooks to provide CONUS WFOs, the public, media, and emergency managers with specific severe weather threats during the next 72 hours. SPC assigns each threat with a percent likelihood of occurrence.

3.2 Issuance Guidelines.

3.2.1 Creation Software. SPC will use the National Centers NAWIPS editor.

3.2.2 Issuance Criteria. Categorical Outlooks are a scheduled product.

3.2.3 Issuance Time. Day One Outlook: 0600, 1300, 1630, 2000 and 0100 UTC
Day Two Outlook: 0830 (0730 during daylight savings time), 1730 UTC
Day Three Outlook 0830 (0730 during daylight savings time), 1730 UTC

3.2.4 Valid Time. The valid time is from the time of issuance until the next update, except at 0600 UTC. The outlook issued at 0600 UTC is valid from 1200 UTC today to 1200 UTC tomorrow.

3.2.5 Product Expiration Time. Product expiration times are 1200 UTC tomorrow (Day One Outlook), 1200 UTC next day (Day Two Outlook), and 1200 UTC the following day (Day Three Outlook).

3.3 Technical Description. Probabilistic outlooks should follow the format and content described in this section.

3.3.1 Mass News Disseminator Broadcast Line. Not applicable.

3.3.2 Mass News Disseminator Header. Not applicable.

3.3.3 Content. SPC will issue probabilistic convective outlooks in a graphical format. The Day One Outlook will consist of separate graphics for tornadoes, hail, and damaging winds. The Day Two and Three Outlooks will have a combined severe thunderstorm events in one graphic. These outlooks provide numerical probabilities of severe weather within 25 statute miles of any point within a given area. The probability thresholds/contours in each graphic are as follows:

Day One Outlook for tornadoes: 2, 5, 15, 25, 35, and 45%
Day One Outlook for damaging winds: 5, 15, 25, 35, and 45%
Day Two and Three Outlooks (combined events): 5, 15, 25, 35, and 45%

SPC will highlight areas in each outlook where there is a 10% chance of tornadoes that could produce F2 or greater damage, two inch or larger diameter hail, or sixty five knot or greater convective wind gusts.

3.3.4 Format.

Day One Outlook
(Convective Wind)

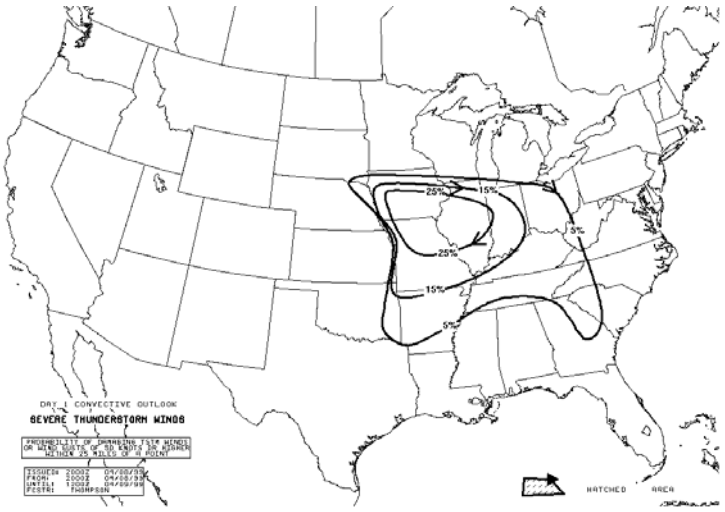

Figure 2. Probabilistic Outlook Example

3.4 Updates, Amendments and Corrections. Updates are scheduled (see issuance times). SPC will correct outlooks for format and grammatical errors as required.

4. SPC Points Product (product category PTSDY1, PTSDY2, PTSDY3).

4.1 Mission Connection. SPC issues the Points Product to provide CONUS WFOs, the public, media, and emergency managers with the latitude and longitude locations of the points that make up the SPC Categorical and Probabilistic Convective Outlook areas.

4.2 Issuance Guidelines.

4.2.1 Creation Software. SPC uses automated software.

4.2.2 Issuance Criteria. Points Products are scheduled products.

4.2.3 Issuance Time. Day One Outlook: 0600, 1300, 1630, 2000 and 0100 UTC
Day Two Outlook: 0830 (0730 during daylight savings time), 1730 UTC
Day Three Outlook 0830 (0730 during daylight savings time), 1730 UTC

4.2.4 Valid Time. The valid time is from the time of issuance until the next update, except at 0600 UTC. The outlook issued at 0600 UTC is valid from 1200 UTC today to 1200 UTC tomorrow.

4.2.5 Product Expiration Time. Product expiration times are 1200 UTC tomorrow (Day One Outlook), 1200 UTC next day (Day Two Outlook), and 1200 UTC the following day (Day Three Outlook).

4.3 Technical Description. The SPC Points Product should follow the format and content described in this section.

4.3.1 Mass News Disseminator Broadcast Line. Not applicable.

4.3.2 Mass News Disseminator Header. Not applicable.

4.3.3 Content. SPC will issue three separate products for the Day 1, Day 2, and Day 3 outlooks. The Day 1 product provides the points for the Probabilistic Outlooks for tornado, large hail and damaging winds, and the associated Categorical Outlook. The Day 2 and 3 products lists the points for the Probabilistic Outlook for all severe (tornadoes, large hail, and damaging winds combined) and the associated Categorical Outlook.

4.3.4 Format.

```
KWNS 071644
PTSDY1

DAY 1 CONVECTIVE OUTLOOK AREAL OUTLINE
STORM PREDICTION CENTER...NWS/NCEP...NORMAN OK
1044 AM CST THU MAR 07 2002

VALID TIME 071630Z - 081200Z

Probabilistic Outlook Points Day 1

... TORNADO ...


... HAIL ...

0.05        40589152 40569341 40849511 41859542 42849334 43379115
            43618840 42788784 41758812 40589152

... WIND ...


Categorical Outlook Points Day 1

... CATEGORICAL ...

TSTM        27858270 27768038
TSTM        44048294 42588393 41848548 41228741 40408989 39919189
            40159378 40469553 42269617 43749485 44809259 45399002
            45638711 45598391
TSTM        42971145 41030788 39440678 37760706 37160812 37040940
            36931221 37011420 37531605 38541801 39651994 41462002
            42341867 43141684 42971145
```

Figure 3. Points Product Example

4.4 Updates, Amendments and Corrections. Updates are scheduled (see issuance times). SPC will correct outlooks for format and grammatical errors as required.

5. Public Severe Weather Outlook (product category PWOSPC).

5.1 Mission Connection. Public Severe Weather Outlooks alert the CONUS WFOs, public, media, and emergency managers to the seriousness of a particularly dangerous convective situation. These outlooks also define the threat area and provide information on the timing of a convective outbreak.

5.2 Issuance Guidelines.

5.2.1 Creation Software. SPC will use the National Centers NAWIPS text editor.

5.2.2 Issuance Criteria. SPC forecasts a high risk of severe thunderstorms or a significant convective event (see 5.3.3 Content for details).

5.2.3 Issuance Time. SPC should issue outlooks at 1000, 1300, 1700 and 2100 (nocturnal) UTC during events.

5.2.4 Valid Time. The valid time is from the time of issuance to expiration.

5.2.5 Product Expiration Time. The product expiration time is at the end of the outlook valid time.

5.3 Technical Description. Public severe weather outlooks should follow the format and content described in this section.

5.3.1 Mass News Disseminator Broadcast Line. None.

5.3.2 Mass News Disseminator Header. The PWO MND header is "PUBLIC SEVERE WEATHER OUTLOOK."

5.3.3 Content. SPC will issue a Public Severe Weather Outlook when it forecasts any of the following conditions:

a. High risk of severe thunderstorms in the Categorical Day One Outlook;

b. 35% or greater probability of tornadoes, and forecast "significant" tornadoes within this area; or

c. 45% or greater probability of severe convective wind gusts or large hail, and an area of hail, and an area of forecast "significant" convective wind gusts or large hail.

5.3.4 Format.

```
WOUS40 KWNS ddhhmm
PWOSPC

PUBLIC SEVERE WEATHER OUTLOOK
NATIONAL WEATHER SERVICE NORMAN OK
time am/pm time_zone day mon dd yyyy

....HEADLINE OF PARTICULARLY DANGEROUS SITUATION (LOCATION AND
TIMING)...

A NARRATIVE PLAIN LANGUAGE DISCUSSION OF THE PARTICULARLY
DANGEROUS CONVECTIVE THREAT. THE SPC FORECASTER SHOULD DEFINE
THE LOCATION...TIMING AND REASONING FOR THIS OUTLOOK. THE
REASONING SHOULD BE KEPT IN TERMS THE PUBLIC WILL UNDERSTAND.
INCLUDE CALL TO ACTION STATEMENTS AS REQUIRED.

...FORECASTER NAME...

STORM PREDICTION CENTER
$$
```

Figure 4. Public Severe Weather Outlook Format

5.4 Updates, Amendments and Corrections. Updates are scheduled (see issuance times). SPC will correct outlooks for format and grammatical errors as required.

6. **Watch County List (product category WCL).**

6.1 Mission Connection. SPC issues Watch County Lists to coordinate with CONUS WFOs on proposed counties to be included in a Severe Thunderstorm or Tornado Watch.

6.2 Issuance Guidelines.

6.2.1 Creation Software. SPC will use the National Centers NAWIPS text editor.

6.2.2 Issuance Criteria. SPC forecasts weather conditions approaching or exceeding Severe Thunderstorm or Tornado Watch criteria.

6.2.3 Issuance Time. Watch County Lists are non-scheduled, event driven products.

6.2.4 Valid Time. Not applicable. Watch County Lists are an internal product.

6.2.5 Product Expiration Time. Not applicable. Watch County Lists are an internal product.

6.3 Technical Description. Watch county lists will follow the format and content described in this section.

6.3.1 Mass News Disseminator Broadcast Line. Not applicable.

6.3.2 Mass News Disseminator Header. Not applicable.

6.3.3 Content. SPC uses the Watch County List (WCL) to alert affected WFO to a proposed Severe Thunderstorm or Tornado Watch. SPC will provide the proposed counties sorted by state in the watch area, the watch number, and the duration. SPC generates and sends the list through AWIPS to the affected WFOs. Watch Warning Advisory (WWA) software decodes this list into a graphical display of counties in each WFO county warning area. The list and graphical display on WWA serve as the basis for a mandatory coordination between SPC and the affected WFOs prior to a watch issuance.

6.3.4 Format.

```
NWUS62 KWNS ddhhmm
WCLx

.(TORNADO OR SEVERE THUNDERSTORM) WATCH x
COORDINATION COUNTY LIST FROM THE NWS STORM PREDICTION CENTER
EFFECTIVE UNTIL HH:MM UTC.

ST
.   STATE 1 COUNTIES INCLUDED ARE

LIST OF COUNTIES

STATE 2  INDEPENDENT CITIES INCLUDED ARE

LIST OF INDEPENDENT CITIES

$$

ST

.   STATE 2 COUNTIES INCLUDED ARE

LIST OF COUNTIES

STATE 2  INDEPENDENT CITIES INCLUDED ARE

LIST OF INDEPENDENT CITIES
$$

ATTN...WFO...CCC...CCC...CCC... (ALARM/ALERT INFORMATION, WFOS
AFFECTED BY THE PROPOSED WATCH).
```

Figure 5. Watch County List Format

6.4 Updates, Amendments and Corrections. Updates are not applicable. SPC will correct lists for format and grammatical errors as required.

7. Severe Thunderstorm Watch (product category SEL).

7.1 Mission Connection. SPC issues Severe Thunderstorm Watches to alert CONUS WFOs, the public, media and emergency managers to organized thunderstorms forecast to produce six or more hail events of 3/4 inch diameter or greater or damaging winds of 50 knots (58 mph) or greater.

7.2 Issuance Guidelines.

7.2.1 Creation Software. SPC will use the National Centers NAWIPS text editor.

7.2.2 Issuance Criteria. SPC should issue Severe Thunderstorm Watches when there is a forecast of six or more hail events of 3/4 inch diameter or greater or damaging winds of 50 knots (58 mph) or greater. The event duration must be at least 2 hours over an area at least 8,000 square miles. The average watch area is 25,000 square miles.

7.2.3 Issuance Time. Severe thunderstorm watches are non-scheduled, event driven products.

7.2.4 Valid Time. The valid time is from the time of issuance to expiration or cancellation time.

7.2.5 Product Expiration Time. The expiration time is the end of the watch valid time.

7.3 Technical Description. Severe Thunderstorm Watches will follow the format and content described in this section.

7.3.1 Mass News Disseminator Broadcast Line. Severe Thunderstorm Watches will include the broadcast line "URGENT - IMMEDIATE BROADCAST REQUESTED". The term "URGENT" is used when the information may wait until a stop-set to be broadcast.

7.3.2 Mass News Disseminator Header. The Severe Thunderstorm Watch MND header is "SEVERE THUNDERSTORM WATCH #."

7.3.3 Content. A Severe Thunderstorm Watch will contain the area description and axis, watch expiration time, a description of hail size and thunderstorm wind gusts expected, the definition of a watch, a call to action statement, a list of other valid watches, a brief discussion of reasoning, technical information for the aviation community (see example), and latitude/longitude couplets identifying the watch polygon outline points.

SPC will include the term "adjacent coastal waters" when the watch affects coastal waters. Adjacent coastal waters refers to a WFO's near shore responsibility (out to 5 miles for the Great Lakes, and out to 20 miles for oceans). SPC will coordinate with affected WFOs to determine which counties are in the initial watch and meteorological reasoning prior to a watch being issued. SPC will issue a watch cancellation message (under both SEL and SAW products)

whenever it cancels a watch. The text of the message will specify the number and area of the cancelled watch. SPC should coordinate with WFOs before canceling a watch in or near their areas of forecast responsibility.

SPC will designate a Severe Thunderstorm Watch as "particularly dangerous" in two situations. The first situation occurs when a well defined, large bow echo has developed, there is evidence of damaging convective winds occurring at the surface, the bow echo is moving at 48 knots or greater, and downstream conditions suggest the bow echo will be maintained or intensify for the duration of the watch. The second situation occurs when conditions are favorable for widespread significant non-tornadic severe weather events (convective winds greater than 65 knots and/or hail greater than 2.0 inches).

7.3.4 Format.

```
WWUS20 KWNS ddhhmm
SEL#
STZ000>099-CWZ000>099-ddhhmm-

URGENT - IMMEDIATE BROADCAST REQUESTED
SEVERE THUNDERSTORM WATCH NUMBER ###
STORM PREDICTION CENTER NORMAN OK
time am/pm time_zone day mon dd yyyy

THE STORM PREDICTION CENTER HAS ISSUED A
SEVERE THUNDERSTORM WATCH FOR PORTIONS OF

                PORTION OF STATE
                PORTION OF STATE
                AND ADJACENT COASTAL WATERS (IF REQUIRED)

EFFECTIVE (TIME PERIOD) UNTIL XXX AM/PM XDT.

...THIS IS A PARTICULARLY DANGEROUS SITUATION (IF FORECAST)...

HAIL TO X INCHES IN DIAMETER...THUNDERSTORM WIND GUSTS TO XX MPH...
AND DANGEROUS LIGHTNING ARE POSSIBLE IN THESE AREAS.

NARRATIVE DESCRIPTION OF WATCH AREA USING A LINE AND ANCHOR
POINTS. DISTANCES TO EITHER SIDE OF THE LINE WILL BE IN STATUTE MILES.

CALL TO ACTION STATEMENTS

OTHER WATCH INFORMATION...OTHER WATCHES IN EFFECT AND IF THIS
WATCH REPLACES A PREVIOUS WATCH.

NARRATIVE DISCUSSION OF REASON FOR THE WATCH.

AVIATION...BRIEF DESCRIPTION OF SEVERE WEATHER THREAT TO AVIATORS.
HAIL SIZE WILL BE GIVEN IN INCHES AND WIND GUSTS IN KNOTS. MAXIMUM
STORM TOPS AND A MEAN STORM VECTOR WILL ALSO BE GIVEN.

$$
```

Figure 6. Severe Thunderstorm Watch Format

7.4 Updates, Amendments and Corrections. Updates and amendments are not applicable. SPC will correct watches for format and grammatical errors as required.

8. **Tornado Watch (product category SEL).**

8.1 Mission Connection. SPC issues Tornado Watches to alert CONUS WFOs, the public, media and emergency managers to organized thunderstorms forecast to produce three or more tornadoes or any "significant" tornado.

8.2 Issuance Guidelines.

8.2.1 Creation Software. SPC will use the National Centers NAWIPS text editor.

8.2.2 Issuance Criteria. SPC should issue a Tornado Watch when there is a forecast of three or more tornadoes or any "significant" tornadoes. The event duration must be at least 2 hours over an area at least 8,000 square miles. The average watch area is 25,000 miles.

8.2.3 Issuance Time. Tornado watches are non-scheduled, event driven products.

8.2.4 Valid Time. The valid time is from the time of issuance to expiration or cancellation time.

8.2.5 Product Expiration Time. The expiration time is the end of the watch valid time.

8.3 Technical Description. Tornado Watches will follow the format and content described in this section.

8.3.1 Mass News Disseminator Broadcast Line. Tornado Watches will include the broadcast line "URGENT - IMMEDIATE BROADCAST REQUESTED." The term "URGENT" is used when the information may wait until a stop-set to be broadcast.

8.3.2 Mass News Disseminator Header. The Tornado Watch MND header is "TORNADO WATCH #."

8.3.3 Content. A Tornado Watch will contain the area description and axis, watch expiration time, the term "destructive tornadoes", a description of severe criteria hail size and thunderstorm wind gusts expected, the definition of a watch, a call to action statement, a list of other valid watches, a brief discussion of reasoning, technical information for the aviation community (see example), and latitude/longitude couplets identifying the watch polygon outline points.

SPC will include the term "adjacent coastal waters" when the watch affects coastal waters. Adjacent coastal waters refers to a WFO's near shore responsibility (out to 5 miles for the Great Lakes, and out to 20 miles for oceans). SPC will coordinate with affected WFOs to determine which counties are in the initial watch and meteorological reasoning prior to a watch being issued. SPC will issue a watch cancellation message (under both SEL and SAW products)

whenever it cancels a watch. The text of the message will specify the number and area of the cancelled watch. SPC should coordinate with WFOs before canceling a watch in or near their areas of forecast responsibility. SPC will designate a Tornado Watch as "particularly dangerous" when there is a likelihood of multiple strong tornadoes (damage of F2 or F3) or at least one violent (damage of F4 or F5) tornado.

8.3.4 Format.

```
WWUS20 KWNS ddhhmm
SEL#
STZ000>099-CWZ000>099-ddhhmm-

URGENT - IMMEDIATE BROADCAST REQUESTED
TORNADO THUNDERSTORM WATCH NUMBER ###
STORM PREDICTION CENTER NORMAN OK
time am/pm time_zone day mon dd yyyy

THE STORM PREDICTION CENTER HAS ISSUED A
TORNADO WATCH FOR PORTIONS OF

                PORTION OF STATE
                PORTION OF STATE
                AND ADJACENT COASTAL WATERS (IF REQUIRED)

EFFECTIVE (TIME PERIOD) UNTIL XXX AM/PM XDT.

...THIS IS A PARTICULARLY DANGEROUS SITUATION (IF FORECAST)...

DESTRUCTIVE TORNADOES...HAIL TO X INCHES IN
DIAMETER...THUNDERSTORM WIND GUSTS TO XX MPH...AND DANGEROUS
LIGHTNING ARE POSSIBLE IN THESE AREAS.

NARRATIVE DESCRIPTION OF WATCH AREA USING A LINE AND ANCHOR
POINTS. DISTANCES TO EITHER SIDE OF THE LINE WILL BE IN STATUTE MILES.

CALL TO ACTION STATEMENTS

OTHER WATCH INFORMATION...OTHER WATCHES IN EFFECT AND IF THIS
WATCH REPLACES A PREVIOUS WATCH.

NARRATIVE DISCUSSION OF REASON FOR THE WATCH.

AVIATION...BRIEF DESCRIPTION OF SEVERE WEATHER THREAT TO AVIATORS.
HAIL SIZE WILL BE GIVEN IN INCHES AND WIND GUSTS IN KNOTS. MAXIMUM
STORM TOPS AND A MEAN STORM VECTOR WILL ALSO BE GIVEN.

$$
```

Figure 7. Tornado Watch Format

8.4 Updates, Amendments and Corrections. Updates and amendments are not applicable. SPC will correct watches for format and grammatical errors as required.

9. SPC Aviation Severe Weather Watch (product category SAW).

9.1 Mission Connection. SPC issues Aviation Severe Weather Watches to alert the aviation community to organized thunderstorms forecast to produce tornadic and/or severe weather as indicated in public watches.

9.2 Issuance Guidelines.

9.2.1 Creation Software. SPC will use the National Centers NAWIPS text editor.

9.2.2 Issuance Criteria. A Public Severe Thunderstorm or Tornado Watch is in effect.

9.2.3 Issuance Time. Severe Weather Aviation Watches are non-scheduled, event driven products.

9.2.4 Valid Time. The valid time is from the time of issuance to expiration or cancellation time.

9.2.5 Product Expiration Time. The expiration time is at the end of the watch valid time.

9.3 Technical Description. Severe weather aviation watches will follow the format and content described in this section.

9.3.1 Mass News Disseminator Broadcast Line. Not applicable.

9.3.2 Mass News Disseminator Header. Not applicable.

9.3.3 Content. SPC will issue the SAW after the watch area has been coordinated with the affected WFOs. SPC forecasters may define the area as a rectangle (X miles either side of line from point A to point B) or as a parallelogram (X miles north and south or east and west of line from point A to point B). Distances of the axis coordinates should be in statute miles. The aviation coordinates reference navigational aid VHF Omni-Directional Range (VOR) locations and state distances will be in nautical miles. SPC will give valid times in UTC. The watch half width will be in statute miles. The Aviation Severe Weather Watch will contain hail size in inches (except tornado watches associated with hurricanes) surface and aloft, surface convective wind gusts in knots, maximum tops, and the Mean Storm Motion Vector.

9.3.4 Format.

```
WWUS30 KWNS ddhhmm
SAW#
SPC AWW ddhhmm
WW ### SEVERE TSTM ST LO DDHHMMZ - DDHHMMZ
AXIS...XX STATUTE MILES EITHER SIDE OF A LINE
XXDIR CCC/LOCATION ST/ - XXDIR CCC/LOCATION ST
..AVIATION COORD.. XX NM EITHER SIDE /XXDIR CCC - XXDIR CCC
HAIL SURFACE AND ALOFT..X X/X INCHES. WIND GUSTS..XX KNOTS.
MAX TOPS TO XXX.   MEAN STORM MOTION VECTOR DIR/SPEED
```

Figure 8. Aviation Severe Weather Watch Format

9.4 Updates, Amendments and Corrections. Updates and amendments are not applicable. SPC will correct watches for format and grammatical errors as required.

10. **Watch Outline Points Message (product category SEVSPC).**

10.1 Mission Connection. SPC issues Watch Outline Points Messages to provide affected customers with outline latitude/longitude coordinates of all valid watches.

10.2 Issuance Guidelines.

10.2.1 Creation Software. SPC uses automated software.

10.2.2 Issuance Criteria. A Public Severe Thunderstorm or Tornado Watch is in effect.

10.2.3 Issuance Time. Watch Outline Points Messages are scheduled products.

10.2.4 Valid Time. The valid time is from the time of issuance to the next scheduled update.

10.2.5 Product Expiration Time. The expiration time is at the end of the watch valid time.

10.3 Technical Description. Watch outline messages will follow the format and content described in this section.

10.3.1 Mass News Disseminator Broadcast Line. Not applicable.

10.3.2 Mass News Disseminator Header. Not applicable.

10.3.3 Content. SPC will issue Watch Points Outline Messages to provide WFOs, the public, media and emergency managers with outline latitude/longitude coordinates of all valid watches. These points are used for the radar summary chart when watches are valid.
10.3.4 Format.

(Watches in Effect)

WWUS60 KWNS ddhhmm
SEVSPC

SEVR 971126 1801 WT0792 2300
02903.09250 03135.09136 03135.08822 02903.08941 02903.08941;

SEVR 971126 1801 WT0793 0000
02957.0811 03248.08751 03248.08456 02957.08621 02903.08941 02903.08941;

(No Watch in Effect)

WWUS60 KWNS DDHHMM
SEVSPC

FILE CREATED DD-MMM-YY AT HH:MM:SS UTC
NO WATCHES CURRENTLY ACTIVE

Figure 9. Watch Outline Points Message Format

10.3 Updates, Amendments and Corrections. Updates are scheduled. SPC will correct messages for format and grammatical errors as required.

11. **Watch Status Message (product category WWASPC).**

11.1 Mission Connection. SPC issues Watch Status Messages to provide CONUS WFOs, the public, media and emergency managers with an assessment of the severe weather threat within each active watch area.

11.2 Issuance Guidelines.

11.2.1 Creation Software. SPC uses the National Centers NAWIPS text editor.

11.2.2 Issuance Criteria. A Public Severe Thunderstorm or Tornado Watch is in effect.

11.2.3 Issuance Time. SPC should issue a Watch Status Message at the top of the hour for each active watch area.

11.2.4 Valid Time. The status message is valid from the time of issuance to the watch expiration or cancellation time.

11.2.5 Product Expiration Time. The expiration time is the same as the watch expiration time.

11.3 Technical Description. Watch outline messages will follow the format and content described in this section.

11.3.1 Mass News Disseminator Broadcast Line. Not applicable.

11.3.2 Mass News Disseminator Header. Not applicable.

11.3.3 Content. SPC uses the Watch Status Message to help WFOs determine portions of a watch they can clear from their county warning area. SPC normally starts to issue Watch Status Messages 30 minutes after a watch has been in effect. The status message will include a brief meteorological discussion of why the watch will or will not expire as scheduled and where additional watches may be needed. SPC should refer customers to related mesoscale convective discussions (product SWOMCD) for additional information on mesoscale features related to the severe weather threat.

11.3.4 Format.

```
WOUS20 KWNS ddhhmm
WWASPC
SPC WWA ddhhmm
STZ000-STZ000-STZ000-ddhhmm

STATUS REPORT ON WT ####

SEVERE WEATHER THREAT CONTINUES TO THE RIGHT OF A LINE FROM XX DIR
CCC...XX DIR CCC...XX DIR CCC.

FOR ADDITIONAL INFORMATION...SEE MESOSCALE DISCUSSION XXX.

...FORECASTER NAME...MM/DD/YY
$$
```

Figure 10. Watch Status Message Format

11.4 Updates, Amendments and Corrections. Updates should be at the top of each hour. SPC will correct messages for format and grammatical errors as required.

12. Hourly Severe Weather Report Log (product category STAHRY).

12.1 Mission Connection. SPC issues Hourly Severe Weather Report Logs to provide WFOs, the public, media and emergency managers with hourly text and graphical reports of severe weather events on a national scale.

12.2 Issuance Guidelines.

12.2.1 Creation Software. SPC uses automated software.

12.2.2 Issuance Criteria. WFOs issue new Preliminary Local Storm Reports (LSR) since the last hourly report.

12.2.3 Issuance Time. SPC will issue a report each hour when WFOs issue LSRs.

12.2.4 Valid Time. Reports are valid upon issuance.

12.2.5 Product Expiration Time. Not applicable.

12.3 Technical Description. Hourly reports will follow the format and content described in this section.

12.3.1 Mass News Disseminator Broadcast Line. None.

12.3.2 Mass News Disseminator Header. The Hourly Report MND header is "SPC TORNADO AND SEVERE THUNDERSTORM REPORTS."

12.3.3 Content. SPC issues hourly report logs to inform the public, the media and emergency managers to severe weather events on a national scale. SPC updates this log on a hourly basis and lists all events since 1200 UTC.

12.3.4 Format.

```
NWUS20 KWNS 131033
STAHRY


               SPC TORNADO AND SEVERE THUNDERSTORM REPORTS
      UNOFFICIAL - FOR OFFICIAL REPORTS, SEE PUBLICATION 'STORM DATA'
           FOR 06CST TUE OCT 10 2000 THRU 22CST TUE OCT 10 2000

EVENT    LOCATION                          REMARKS                (CST)TIME

TORNADO REPORTS.........TORNADO REPORTS.........TORNADO REPORTS.....

  80 *TORN  2 SW DUSTER TX      (28 WSW SEP)                        10/2145
    PSBL TORNADO; HOMES DMGD; SVRL PERSONS          FTW/LSR   32139865
                 HOSPITALIZED

 .......LRG HAIL/STRONG WIND RPTS.......LRG HAIL/STRONG WIND RPTS......

  55  A450  PROFFITT TX      (55 WNW MWL)                        10/1905
                                                    FTW/LSR   33199888
  12  WNDG  BRADY TX      (49 NNE JCT)                          10/1642
      SIGNS DOWN.STEEPLE OFF CHURCH; TREES & POWER  SJT/LSR   31139933
            POLES DOWN.
   2  G 56  DRYDEN TX      (17 E P07)                           10/1420
            60-70 MPH WNDS; SPOTTER RPRT            MAF/SVS  300510211

 .........OTHER SEVERE REPORTS.........OTHER SEVERE REPORTS.........

  91  A 75  ADDICKS TX      (24 WNW HOU)                        10/1215
            DIME SIZED HAIL NR LAMAR HIGH SCHOOL    HOU/LSR   29789565



  15  B200  O45 (ORL)ORLANDO EXEC ARPT FL                       10/1655
            OV ORL 045008/TM 2255/FL010/TP PARO/TB  ORL/UUA   28558133
                    2 IN DIA HAIL
$$
```

Figure 11. Hourly Report Log Format

How to read an SPC report log:

Event Number: 80 (the 80th severe event received during this 24 hour period).
Event: "*TORN" Tornado.
Location: Occurred 2 SW Duster, TX. Referenced to the closest airport, the Tornado occurred 28 miles west-southwest of Stephenville, TX.
Date/Time: 10/2145 Occurred on the 10th day of the month at 2145 CST.
Details: They are calling this a possible tornado. Further investigation may or may not support this. The event resulted in the hospitalization of several people.
Source: FTW/LSR. SPC learned about this from a Local Storm Report (LSR) issued by the National Weather Service at Ft. Worth, TX (FTW).
Coordinates: The report location was at 32.13 degrees north, 98.65 degrees west.

12.4 Updates, Amendments and Corrections. SPC will update the hourly logs at the top of each hour when WFOs issue LSR(s). SPC will correct reports for format and grammatical errors as required.

13. Daily Severe Weather Report Log (product category STADTS).

13.1 Mission Connection. SPC issues Daily Severe Weather Report Logs to provide CONUS WFOs, the public, media and emergency managers with text and graphical reports of severe weather events on a national scale for the previous day.

13.2 Issuance Guidelines.

13.2.1 Creation Software. SPC uses automated software.

13.2.2 Issuance Criteria. WFOs issue LSRs during the previous 24 hours (1200 UTC yesterday to 1159 UTC today).

13.2.3 Issuance Time. The issuance time will be 1200 UTC. SPC should issue an update at 1800 UTC.

13.2.4 Valid Time. Reports are valid upon issuance.

13.2.5 Product Expiration Time. Not applicable.

13.3 Technical Description. Daily reports will follow the format and content described in this section.

13.3.1 Mass News Disseminator Broadcast Line. None.

13.3.2 Mass News Disseminator Header. The Daily Report MND header is "SPC TORNADO AND SEVERE THUNDERSTORM REPORTS."

13.3.3 Content. SPC issues daily report logs in a text and graphical format to inform the public, the media and emergency managers to severe weather events on a national scale for the previous day.

13.3.4 Format.

```
NWUS20 KWNS 131033
STADTS


               SPC TORNADO AND SEVERE THUNDERSTORM REPORTS
      UNOFFICIAL - FOR OFFICIAL REPORTS, SEE PUBLICATION 'STORM DATA'
           FOR 12CST TUE OCT 10 2000 THRU 12CST WED OCT 11 2000

EVENT    LOCATION                          REMARKS                (CST)TIME

TORNADO REPORTS.........TORNADO REPORTS.........TORNADO REPORTS.....

  80 *TORN  2 SW DUSTER TX      (28 WSW SEP)                        10/2145
    PSBL TORNADO; HOMES DMGD; SVRL PERSONS          FTW/LSR   32139865
                 HOSPITALIZED

 .......LRG HAIL/STRONG WIND RPTS.......LRG HAIL/STRONG WIND RPTS......

  55  A450  PROFFITT TX      (55 WNW MWL)                        10/1905
                                                    FTW/LSR   33199888
  12  WNDG  BRADY TX      (49 NNE JCT)                          10/1642
      SIGNS DOWN.STEEPLE OFF CHURCH; TREES & POWER  SJT/LSR   31139933
            POLES DOWN.
   2  G 56  DRYDEN TX      (17 E P07)                           10/1420
            60-70 MPH WNDS; SPOTTER RPRT            MAF/SVS  300510211

 .........OTHER SEVERE REPORTS.........OTHER SEVERE REPORTS.........

  91  A 75  ADDICKS TX      (24 WNW HOU)                        10/1215
            DIME SIZED HAIL NR LAMAR HIGH SCHOOL    HOU/LSR   29789565



  15  B200  O45 (ORL)ORLANDO EXEC ARPT FL                       10/1655
            OV ORL 045008/TM 2255/FL010/TP PARO/TB  ORL/UUA   28558133
                    2 IN DIA HAIL

$$
```

Figure 12. Daily Report Log Format

How to read an SPC report log:

Event Number: 80 (the 80th severe event received during this 24 hour period).
Event: "*TORN" Tornado.
Location: Occurred 2 SW Duster, TX. Referenced to the closest airport, the Tornado occurred 28 miles west-southwest of Stephenville, TX.
Date/Time: 10/2145 Occurred on the 10th day of the month at 2145 CST.
Details: They are calling this a possible tornado. Further investigation may or may not support this. The event resulted in the hospitalization of several people.
Source: FTW/LSR. SPC learned about this from a Local Storm Report (LSR) issued by the National Weather Service at Ft. Worth, TX (FTW).
Coordinates: The report location was at 32.13 degrees north, 98.65 degrees west.

13.4 Updates, Amendments and Corrections. SPC issues a scheduled update at 10 am CST. SPC will correct reports for format and grammatical errors as required.

14. **Monthly Tornado Statistics (product category STAMTS).**

14.1 Mission Connection. SPC issues Monthly Tornado Summary to provide WFOs, the public, media and emergency managers with a preliminary number of tornado reports on a national scale.

14.2 Issuance Guidelines.

14.2.1 Creation Software. SPC will use the National Centers NAWIPS text editor.

14.2.2 Issuance Criteria. This summary is a scheduled product.

14.2.3 Issuance Time. SPC will issue this summary Monday through Friday at 1200 UTC.

14.2.4 Valid Time. Summaries are valid upon issuance.

14.2.5 Product Expiration Time. Not applicable.

14.3 Technical Description. Summaries will follow the format and content described in this section.

14.3.1 Mass News Disseminator Broadcast Line. None.

14.3.2 MND Header. The Monthly Summary MND header is "STATISTICS FOR TORNADO TOTALS AND TORNADO RELATED DEATHS."

14.3.3 Content. This summary tabulates the preliminary number of tornado reports listed in WFO LSR(s) issued during the previous month. These numbers consist of reported and confirmed tornadoes. SPC will update the count of tornadoes when Storm Data is available. The national verification program, the National Climatic Data Center, and SPC will confirm the total number of tornadoes, and provide the final update to the monthly summary.

The monthly summary will include data from each of the last three years, and a three year average. The summary will also include the number of killer tornadoes and number of deaths for the current year and three year average.

The summary lists the monthly number of tornadoes for the current and previous two years, and a three year average. The summary also lists statistics for the number of tornado deaths each month of the current year and previous two years, and a three year average.

The summary will include the killer tornadoes for the current year and previous two years.

14.3.4 Format.

```
NWUS21 KWNS 151215
STAMTS

STORM PREDICTION CENTER (NORMAN OK)...THROUGH  6 AM CDT 02/15/00
STATISTICS FOR TORNADO TOTALS AND TORNADO RELATED DEATHS

     ............NUMBER OF TORNADOES.............     NUMBER OF      KILLER
                                                     TORNADO DEATHS
TORNADOES
     ....2000....  ....1999....  1998  1997 3YR               3YR
     PRELIM SEGMT  PRELIM SEGMT FINAL FINAL AVG  00  99 98 97 AVG  00 99 98
JAN    169     -      20    49    50    35   45  19   -  2  1   2   9  -  2
FEB      9     -      56    78    23    14   38   -  41  1  1  14   -  4  1

MAR      -     -      66    80   102    71   84   -  16 28  6  17   -  4  9
APR      -     -     196   208   114   177  166   -  55  1 12  23   - 14  1
MAY      -     -     309   326   225   235  262   -  10 29  1  13   -  5  3
JUN      -     -     372   400   193   128  240   -   3  -  -   1   -  2  -
JUL      -     -      59    82   188   202  157   -   -  4  1   2   -  -  4
AUG      -     -      32    64    84    72   73   -   -  1  -   1   -  -  1
SEP      -     -      61   109    32   101   81   -   2  1  -   1   -  2  1
OCT      -     -      64    66   100    68   78   -   2  -  -   1   -  2  -
NOV      -     -      18    19    25    55   33   -   -  -  2   1   -  -  -
DEC      -     -       1     -    12    15   15   -   -  -  1   1   -  -  -
      ----  ----    ----  ----  ----  ----  ---  -- --- -- --  --  -- -- --
SUM    178     -    1254  1481  1148  1173 1272  19 129 67 25  77   9 33 22

SEGMT= NUMBER OF TORNADO SEGMENTS
FINAL=ACTUAL TORNADOES


MCCARTHY
$$
```

Figure 13. Monthly Tornado Statistics Format

The statistics are broken down by month and contain data for the last four years. An "-" in a column means the data is missing or not yet available.

The SPC does not include reports of "unconfirmed" or "possible" tornadoes in the PRELIM numbers. The “SEGMT” column lists the number of counties where tornadoes occurred (if one tornado is on the ground in two counties, ‘SEGMT’ gets incremented by two for that tornado).

When the digital Storm Data database arrives from the NWS Office of Services, FINAL numbers go in that column. Those include removal of any erroneous/duplicate reports or added reports which were initially missed or classified incorrectly. The FINAL numbers are not whole tornadoes, but instead county-segments of tornado tracks, which accounts for much of the increase between PRELIM and FINAL.

Along the bottom of the report are totals for the columns and a simplified re-cap. In the example, there were 1254 preliminary (PRELIM) reports of tornadoes in 1999, versus 1481 tornado segments FINAL through Dec 1, 1999.

14.4 Updates, Amendments and Corrections. SPC should update this report at least twice per month. SPC will correct reports for format and grammatical errors as required.

15. **Killer Tornado Statistics (product category STATIJ).**

15.1 Mission Connection. SPC issues Killer Tornado Statistics to provide WFOs, the public, media and emergency managers with a list of the dates, locations and number of deaths due to tornadoes since the start of the calendar year on a national scale.

15.2 Issuance Guidelines.

15.2.1 Creation Software. SPC will use the National Centers NAWIPS text editor.

15.2.2 Issuance Criteria. SPC issues a new list of statistics following new killer tornado events.

15.2.3 Issuance Time. This list is non-scheduled, event driven.

15.2.4 Valid Time. Lists are valid upon issuance.

15.2.5 Product Expiration Time. Not applicable.

15.3 Technical Description. Lists will follow the format and content described in this section.

15.3.1 Mass News Disseminator Broadcast Line. None.

15.3.2 Mass News Disseminator Header. The Statistics MND header is "(YEAR) KILLER TORNADOES."

15.3.3 Content. This summary will list the dates, times, locations, and number of deaths from killer tornadoes from Jan 1 to the time of the latest report, whether the deaths occurred in a tornado or severe thunderstorm watch, near a watch, or with no watch in effect, the watch number where the death occurred, and the F-scale damage, if available. The summary should list the circumstances in which each death occurred. The summary will list the number of tornado deaths by state.

15.3.4 Format.

```
NWUS23 KWNS ddhhmm
STATIJ
STORM PREDICTION CENTER (NORMAN OK)

2001 KILLER TORNADOES
PRELIMINARY-SUBJECT TO CHANGE

 # DATE   TIME  LOCATION          DEATHS   A  B  C  D  WATCH  F  CIRCUMST
               CST
 = ======  ==== ================ ======   =  =  =  =  ====== == ==========
 1 JAN 02  0040 BUNA TX               1   1  0  0  0  WT0003 F2 01M
 2 JAN 17  1825 JACKSON TN            7   7  0  0  0  WT0012 F4 07
 3 JAN 17  1900 SAULSBURY TN          1   1  0  0  0  WT0012 F1 01
 4 JAN 17  1905 ATWOOD TN             1   1  0  0  0  WT0013 F? 01
 5 JAN 21  1720 CENTER HILL AR        2   2  0  0  0  WT0018 F2 01M 01V
 6 JAN 21  1720 PLEASANT PLAINS AR    1   1  0  0  0  WT0018 F2 01M
 7 JAN 21  1847 LITTLE ROCK AR        3   3  0  0  0  WT0018 F3 01M 01V 01P
 8 JAN 21  1935 BEEBE AR              2   2  0  0  0  WT0018 F3 02H
 9 JAN 22  0330 7N CAMDEN TN          1   1  0  0  0  WT0027 F3 01O
                                     --   -- -  -  -
TOTALS:                             19   19 0  0  0
BY STATE:  TN 10  AR 08  TX 01
BY CIRCUMSTANCE:  04M  02H  02V  01O  01P  09
PRELIMINARY THRU 30 JAN 01.

... EDWARDS ...
$$
```

Figure 14. Killer Tornado Statistics Format

The killer tornadoes are listed in the chronological order they happened, by DATE and CST TIME. LOCATION is self-explanatory. DEATHS is number of deaths in the whole tornado path -- not just the given location. The ABCD column letters represent the number of deaths:

A = In tornado watch
B = In severe thunderstorm watch
C = "Close" to the watch (15 minutes or 25 miles)
D = No watch in effect

If the tornado was in a watch, the watch type and number is given. For example, WT0012 is Tornado Watch number 12. If known, the F-scale damage rating of the tornado is listed; if not, a "?" mark is entered. The deaths are broken down by the following circumstances of the victims, if known:

H = House (permanent foundation)
M = Mobile home (a.k.a. "manufactured home")
O = Outdoors (not inside any vehicle, mobile home or permanent building)
P = Permanent structure (school, garage, factory, store, warehouse, etc.)
V = Vehicle (includes parked RVs)

Information for the killer tornadoes list comes from LSRs and Public Information Statements (PNS) issued by WFOs, supplemented by NWS event memos and media accounts. Since killer tornado information, especially death counts, circumstances and F scale, is often not complete until many days later, these numbers are subject to change as more information arrives

15.4 Updates, Amendments and Corrections. SPC should update this report as required. SPC will correct reports for format and grammatical errors as required.

16. **Operations Administrative Message (product category ADMSPC).**

16.1 Mission Connection. SPC issues Operations Administrative Messages to inform WFOs of changes in SPC operational status (going to or from backup operations) or communications issues (i.e. advance notice of upcoming test convective watches).

APPENDIX A - Examples

Table of Contents: Page

1. Introduction. This appendix provides WFOs and the public with examples of national severe weather products.

2. Categorical Convective Outlook (Graphic).

(Day One Outlook)

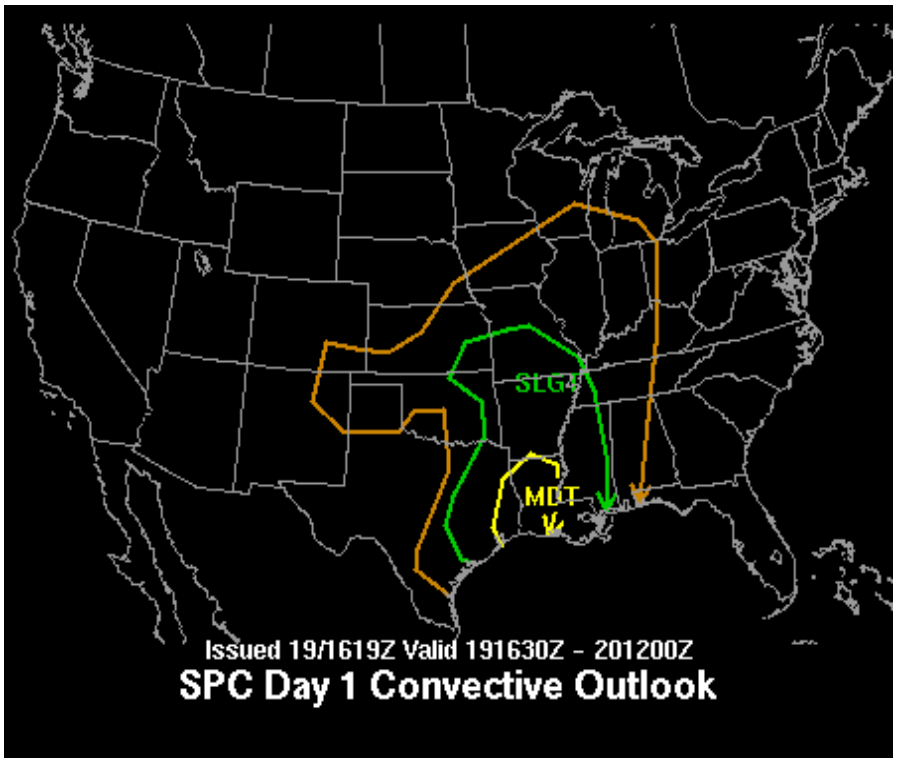

Figure 2. Categorical Convective Outlook

3. Categorical Convective Outlook (Narrative).

STORM PREDICTION CENTER...NWS/NCEP...NORMAN OK
DAY 1 CONVECTIVE OUTLOOK...REF AWIPS GRAPHIC PGWE46 KWNS.

VALID 201200Z - 211200Z

THERE IS A SLGT RISK OF SVR TSTMS TO THE RIGHT OF A LINE FROM
25 E GPT 20 SE CBM 45 E MKL EVV IND MIE 35 S FDY ZZV 25 WNW PKB
HTS TYS LGC 40 SSW CSG 35 NE MAI 30 NE TLH 30 SE TLH.

GEN TSTMS ARE FCST TO THE RIGHT OF A LINE FROM DAB 15 WNW PIE
...CONT... 35 SSW HUM MSY LUL MEI CBM MKL SPI PIA MMO GRR
50 NNE MTC ...CONT... 35 NW JHW DUJ 40 SSE LBE EKN SSU ROA LYH DCA
DOV 20 SSE ACY.

--- SYNOPSIS ---
DOMINANT MIDDLE-UPPER LEVEL FEATURE REMAINS LONGWAVE TROUGH OVER CENTRAL CONUS -- WHICH IS FORECAST TO SHIFT EWD THROUGH PERIOD. POSITIVELY TILTED SHORTWAVE TROUGH NOW OVER OK/TX WILL EJECT NEWD AROUND SERN PERIPHERY OF DEEP-TROPOSPHERIC CYCLONE FORECAST TO MOVE NEWD ACROSS CENTRAL/ERN GREAT LAKES. ASSOCIATED SURFACE COLD FRONT-- ANALYZED FROM IA SWWD ACROSS W TX ATTM -- IS EXPECTED TO CATCH ERN TX DRYLINE AROUND BEGINNING OF PERIOD...THEN MOVE EWD ACROSS LOWER-MID MS VALLEY. FRONT SHOULD REACH CAROLINAS AND NRN FL BY 21/12Z.

--- SERN CONUS ---
GREATEST DESTABILIZATION IS PROGGED TO LAG BEHIND PRIMARY CONVECTIVE/CONFLUENCE BAND...AND OCCUR IN REGIME OF VEERED BOUNDARY LAYER FLOW AHEAD OF COLD FRONT. THIS VEERING APPEARS REASONABLE WITH STRONGEST ISALLOBARIC FIELDS FORECAST TO CONTINUE LIFTING AWAY FROM AREA IN ASSOCIATION WITH INCREASINGLY STACKED GREAT LAKES CYCLONE. THEREFORE...DESPITE FAVORABLE THERMODYNAMIC SUPPORT FOR SEVERE IF CONVECTION WERE TO FORM...MLCAPES 1000-2000 J/KG POSSIBLE FROM MID TN SWD...CONVERGENCE ALONG COLD FRONT SHOULD BE RELATIVELY WEAK. POSSIBLE EXCEPTION IS WITHIN 200-300 NM SSE OF SURFACE CYCLONE OVER PORTIONS INDIANA/OH...BUT INSTABILITY WILL BE LIMITED THAT FAR N.

MOST ACTIVITY SHOULD REMAIN CONFINED TO PREFRONTAL CONFLUENCE LINE. KINEMATIC FIELDS AROUND THIS ACTIVITY WILL CONTINUE TO BE STRONG – SUPPORTING WIND DAMAGE THREAT -- HOWEVER COVERAGE OF EVENTS SHOULD BE LIMITED BY RELATIVELY WEAK LAPSE RATES...LIMITED HEATING AND MARGINAL CAPE IN INFLOW SECTOR. MLCAPES GENERALLY AOB 1000 J/KG EXPECTED EXCEPT NEAR GULF COAST WHERE MID 60S SURFACE DEW POINTS MAY YIELD 1000-1500 J/KG RANGE CAPES.

..EDWARDS.. 02/20/02

NOTE: THE NEXT DAY 1 OUTLOOK IS SCHEDULED FOR 1300Z

$$

4. SPC Points Product.

KWNSPTSDY2

DAY 2 CONVECTIVE OUTLOOK AREAL OUTLINE
STORM PREDICTION CENTER...NWS/NCEP...NORMAN OK
1044 AM CST THU MAR 07 2002

VALID TIME 081200Z - 091200Z

Probabilistic Outlook Points Day 2

... ANY SEVERE ...

0.05	31588905 30759215 29899578 28759842 29349965 30729954 32309886 34359805 36419888 37669935 38699875 40309672 41999406 43229093 43688783 43328549 42448470 39388453 36828582 33158765 31588905
0.15	31389518 32019700 32939773 35149756 36359783 37189817 38249776 39789622 41569321 41689103 41038914 39308715 38058655 36458734 34138926 32589096 31389518
0.25	34649265 33369320 32719532 33799686 37369748 39019667 40639398 40749265 39509210 34649265
SIGN	39489439 38589335 35109281 33009342 32649552 33589681 35729726 37909765 39279617 39489439

Categorical Outlook Points Day 2

... CATEGORICAL ...

SLGT	31389518 32019700 32939773 35149756 36359783 37189817 38249776 39789622 41569321 41689103 41038914 39308715 38058655 36458734 34138926 32589096 31389518
TSTM	29549462 29669615 28759869 29459979 30889950 34319815 37749936 38789854 43459236 47328524
TSTM	42448083 38798250 33678670 29299162

5. Severe Weather Public Outlook.

WOUS36 KNWS 211703
PWOSPC
ARZ000-LAZ000-TNZ000-MSZ000-220000-

PUBLIC SEVERE WEATHER OUTLOOK
STORM PREDICTION CENTER NORMAN OK
1100 AM CST THU 21 JAN 1999

...OUTBREAK OF SEVERE THUNDERSTORMS INCLUDING A FEW INTENSE TORNADOES ARE EXPECTED OVER PARTS OF THE LOWER MISSISSIPPI VALLEY THIS AFTERNOON THROUGH TONIGHT...

THE STORM PREDICTION CENTER IN NORMAN OK IS FORECASTING THE DEVELOPMENT OF A FEW INTENSE TORNADOES OVER PARTS OF THE LOWER MISSISSIPPI VALLEY AND SOUTH CENTRAL STATES LATER TODAY THROUGH TONIGHT.

THE AREAS MOST LIKELY TO EXPERIENCE THIS ACTIVITY INCLUDE:
MUCH OF ARKANSAS
NORTHERN LOUISIANA
SOUTHWESTERN TENNESSEE
NORTHERN MISSISSIPPI

STRONG LOW LEVEL SOUTHERLY WINDS HAVE PUSHED WARM MOIST AIR FROM THE GULF OF MEXICO NORTHWARD ACROSS THE LOWER MISSISSIPPI VALLEY REGION THIS MORNING. TO THE NORTHWEST...MUCH COLDER AIR FROM CANADA IS BEGINNING TO MOVE SOUTHEASTWARD BEHIND A STRONG COLD FRONT. LATE THIS AFTERNOON AND TONIGHT...THUNDERSTORMS WILL RAPIDLY INTENSIFY ALONG OR JUST AHEAD OF THE COLD FRONT OVER WESTERN ARKANSAS AND WESTERN LOUISIANA WITH ACTIVITY MOVING EASTWARD TOWARD THE LOWER MISSISSIPPI RIVER VALLEY OVERNIGHT. WINDS IN THE UPPER PORTIONS OF THE ATMOSPHERE WILL HAVE SPEEDS NEAR 100 MILES AN HOUR CREATING FAVORABLE CONDITIONS FOR A FEW VERY DESTRUCTIVE TORNADOES. IN ADDITION...COLD DRY AIR ALOFT WILL RESULT IN WIDESPREAD AREAS OF LARGE HAIL AND DAMAGING WINDS.

THIS IS POTENTIALLY A VERY DANGEROUS SITUATION. THOSE IN THE THREATENED AREA ARE URGED TO REVIEW SEVERE WEATHER SAFETY RULES, AND TO LISTEN TO RADIO AND TELEVISION AND NOAA WEATHER RADIO FOR POSSIBLE WATCHES, WARNINGS AND STATEMENTS LATER TODAY.
$$

6. Watch County List.

NWUS62 KWNS 261705
WCLA

.TORNADO WATCH 1002
COORDINATION COUNTY LIST FROM THE STORM PREDICTION CENTER
EFFECTIVE UNTIL 0200 UTC.

AR
. ARKANSAS COUNTIES INCLUDED ARE

BRADLEY	CALHOUN	CLARK
CLEVELAND	COLUMBIA	CONWAY
DALLAS	FAULKNER	GARLAND
GRANT	HEMPSTEAD	HOT SPRING
HOWARD	JEFFERSON	LAFAYETTE
LITTLE RIVER	LOGAN	LONOKE
MILLER	MONTGOMERY	NEVADA
OUACHITA	PERRY	PIKE
POLK	PULASKI	SALINE
SCOTT	SEBASTIAN	SEVIER
UNION	WHITE	YELL

$$

LA
. LOUISIANA PARISHES INCLUDED ARE

BIENVILLE	BOSSIER	CADDO
CLAIBORNE	LINCOLN	UNION
WEBSTER		

$$

TX
. TEXAS COUNTIES INCLUDED ARE

BOWIE	CAMP	CASS
HARRISON	MARION	MORRIS
UPSHUR		

$$

ATTN...WFO...SHV...FTW...LZK...

7. Severe Weather Watch (Severe Thunderstorm or Tornado).

WWUS20 KWNS 011729
SEL7
SDZ000-020000-

BULLETIN - IMMEDIATE BROADCAST REQUESTED
TORNADO WATCH NUMBER 547
STORM PREDICTION CENTER NORMAN OK
1229 PM CDT TUE JUL 1 1997

THE STORM PREDICTION CENTER HAS ISSUED A
TORNADO WATCH FOR PORTIONS OF

EASTERN SOUTH DAKOTA

EFFECTIVE THIS TUESDAY AFTERNOON AND EVENING FROM 100 PM UNTIL 700 PM CDT.

TORNADOES...HAIL TO 2 INCHES IN DIAMETER...THUNDERSTORM WIND GUSTS TO 75 MPH...AND DANGEROUS LIGHTNING ARE POSSIBLE IN THESE AREAS.

THE TORNADO WATCH AREA IS ALONG AND 70 STATUTE MILES EAST AND WEST OF A LINE FROM 40 MILES NORTH NORTHEAST OF ABERDEEN SOUTH DAKOTA TO 25 MILES SOUTHEAST OF MITCHELL SOUTH DAKOTA.

REMEMBER...A TORNADO WATCH MEANS CONDITIONS ARE FAVORABLE FOR TORNADOES AND SEVERE THUNDERSTORMS IN AND CLOSE TO THE WATCH AREA. PERSONS IN THESE AREAS SHOULD BE ON THE LOOKOUT FOR THREATENING WEATHER CONDITIONS AND LISTEN FOR LATER STATEMENTS AND POSSIBLE WARNINGS.

OTHER WATCH INFORMATION...THIS TORNADO WATCH REPLACES TORNADO WATCH NUMBER 546. WATCH NUMBER 546 WILL NOT BE IN EFFECT AFTER 100 PM CDT.

DISCUSSION...LINE OF THUNDERSTORMS HAS SHOWN SIGNS OF ORGANIZING OVER CENTRAL SOUTH DAKOTA IN ADVANCE OF VIGOROUS UPPER TROUGH MOVING TOWARD THE HIGH PLAINS. SATELLITE IMAGERY SHOWS A FEW BREAKS IN CLOUD COVER OVER EASTERN SOUTH DAKOTA SUGGESTING LOCAL AREAS OF ENHANCED HEATING/DESTABILIZATION WILL OCCUR. STORMS WILL ENCOUNTER INCREASINGLY UNSTABLE AIR MASS AS THEY SPREAD ACROSS EASTERN SOUTH DAKOTA...WITH POTENTIAL FOR SEVERE THUNDERSTORMS AND ISOLATED TORNADOES BECOMING MORE FAVORABLE BY MID AFTERNOON.

AVIATION...TORNADOES AND A FEW SEVERE THUNDERSTORMS WITH HAIL SURFACE AND ALOFT TO 2 INCHES. EXTREME TURBULENCE AND SURFACE WIND GUSTS TO 65 KNOTS. A FEW CUMULONIMBI WITH MAXIMUM TOPS TO 500. MEAN STORM MOTION VECTOR 23030.

;455,0963 433,0960 433,0990 455,0993;

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8. SPC Aviation Severe Weather Watch.

WWUS30 KWNS 041913
SAW3
SPC AWW 041913
WW 689 SEVERE TSTM NY LO 042000Z - 050200Z
AXIS..90 STATUTE MILES EITHER SIDE OF LINE..
40ESE BGM/BINGHAMTON NY/ - 15WNW MSS/MASSENA NY/
..AVIATION COORDS.. 80NM EITHER SIDE /38NE AVP - 55NW SLK/
HAIL SURFACE AND ALOFT..2 1/2 INCHES. WIND GUSTS..70 KNOTS.
MAX TOPS TO 450. MEAN STORM MOTION VECTOR 270/30.

9. Watch Status Message.

WOUS20 KWNS 270000
WWASPC
SPC WWA 270000
TXZ000-ARZ000-LAZ000-270100

STATUS REPORT ON WS 1002

SEVERE WEATHER THREAT CONTINUES TO THE RIGHT OF A LINE FROM 25 WSW TXK...30 ENE TXK...10 WNW HOT. THIS AREA IS UNCHANGED FROM THE PREVIOUS STATUS MESSAGE.

..IMY..9/25/99
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